DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Casey, William
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-027770
Date Inspected: 15-Jun-2012

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 700
OSM Departure Time: 1930
Location: Job Site

CWI Name:	Steve Jensen and William Sherwood			**CWI Present:**	☑ Yes	☐ No	
Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: SAS Tower

Summary of Items Observed:

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

At OBG 13W-W2.1 @ 10100 Y=4300mm to Y=5500mm top deck drop-in plate inside, QA randomly observed ABF certified welder Mike Jimenez continuing to perform 4G (overhead position) Shielded Metal Arc Welding (SMAW) back welding cover pass on the CJP SPCM splice butt joint. The welder was utilizing 3.2mm diameter E7018H4R electrode implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1040C-CU. The joint being welded had a single V-groove butt joint with copper plate backing bar that was originally welded from the top using a combination of SMAW and Submerged Arc Welding (SAW) then removed the copper backing plate using carbon air arc gouging and ground smooth. The plates were preheated to more than 150 degree Fahrenheit using Miller Proheat 35 Induction Heating System prior welding. Welding parameters were monitored by ABF/QC William Sherwood. QA noted the working welding parameters of 128 amperes on the 3.2mm diameter E7018H4R electrode. The workmanship and appearance of the completed cover pass deemed satisfactory. During the shift, cover pass back welding on area mentioned above was completed and the welder has moved to Y=5500mm to Y=6000mm wherein he continued the overhead SMAW back welding until the end of the shift.

At OBG 13W-W2.8 @ 12570 Y=2500mm to Y=3500mm top deck drop-in plate inside, QA randomly observed ABF certified welder Jeremy Dolman continuing to perform 4G (overhead position) Shielded Metal Arc Welding (SMAW) back welding cover pass on the CJP SPCM splice butt joint. The welder was utilizing 3.2mm diameter

E7018H4R electrode implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1040C-CU. The joint being welded had a single V-groove butt joint with copper plate backing bar that was originally welded from the top using a combination of SMAW and Submerged Arc Welding (SAW) then removed the copper backing plate using carbon air arc gouging and ground smooth. The plates were preheated to more than 150 degree Fahrenheit using Miller Proheat 35 Induction Heating System prior welding. Welding parameters were monitored by ABF/QC William Sherwood. QA noted the working welding parameters of 128 amperes on the 3.2mm diameter E7018H4R electrode. The workmanship and appearance of the completed cover pass deemed satisfactory. During the shift, cover pass back welding on area mentioned above was completed and the welder has moved to Y=4000mm to Y=6000mm wherein he continued the overhead SMAW back welding until the end of the shift.

All other related welding activities at the OBG include back gouging using carbon air arc gouging on the bottom side of SMAW/SAW welded from the top drop-in top deck plate. The locations that were back gouged were at 13W-PP122.2 @ 8650mm and 13W/14W Y=2500mm to Y=4000mm.

At the request of Quality Control Field Supervisor, Bonifacio Daquinag, QA has randomly verified the QC VT/MT of the 5mm all around fillet weld on Crosby padeye size #4. The QA verification was performed to verify that the welding and the VT/MT inspection performed by the QC inspector meet the requirements of the contract documents. At the conclusion of the QA verification it appeared that the weld and the QC inspection complied with the contract documents.

1. Tower elev. 33 meter – Crosby padeye to tower skin plate 5mm all around fillet weld QA verified.
2. Tower elev. 28 meter – Crosby padeye to tower skin plate 5mm all around fillet weld QA verified.

FW Spencer:

At location Panel Point PP111 to PP113 of OBG grid line E5, this QA randomly observed FW Spencer qualified welder Damian Llanos continuing to perform Complete Joint Penetration (CJP) 6G (all position) Shielded Metal Arc Welding (SMAW) welding root pass to cover pass on the field splice butt joint of 2.5" domestic water line at panel point location PP111 to PP113. The system line being welded is field weld joints along the grid line of E5 of the OBG. The welder was noted welding the root pass with 3/32” diameter E6010 electrode and followed by fill pass to cover pass using 3/32” diameter E7018H4R electrode implementing Caltrans approved procedure FW Spencer WPS 1-12-1. The welder was noted preheating and removing the moisture of the joint using a portable gas torch prior welding. During welding, ABF QC Steve Jensen was noted monitoring the parameters of the welder. At the end of the shift, the welder has completed the following splice butt joints;

Line Service Line/Pipe Size Panel Point Location Joint Designation
1. Compressed Air 4” 111 Northeast 38/4”/111/NE
2. Domestic Water 2 ½” 111 Northeast 38/2 ½” /111/NE
3. Compressed Air 4” 113 Northeast 39/4”/113/NE
4. Domestic Water 2 ½” 113 Northeast 39/2 ½” /113/NE
5. Domestic Water 1 112 Northeast 1/DW1 /112/NE

WELDING INSPECTION REPORT

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Summary of Conversations:

No significant conversation ocurred today.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact SMR Nina Choy 510-385-5910, who represents the Office of Structural Materials for your project.

Inspected By:	Lizardo,Joselito	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer